

SCUTELLARIA LUTILABIA (LABIATAE),
A NEW GYPSOPHILE FROM NUEVO LEÓN, MEXICO

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ABSTRACT

Scutellaria lutilabia, an endemic skullcap from an area of gypsum outcrops on the west side of Cerro Peña Nevada, Nuevo León, Mexico, is described. It appears to be a member of sect. *Resinosae* Epling but differs strongly from all species of that section by its vestiture, flower color, and mericarp morphology.

RESUMEN

Scutellaria lutilabia, una capa calavera de una afloramiento de rocas yesosas expuestas en el parte Oeste del Cerro Peña Nevada, Nuevo León, México, esta descrita. Parece ser un miembro de la secc. *Resinosae* Epling, pero se diferencia marcadamente de todos las especies de esa sección por su indumento, el color de sus flores, y su morfología mericarpica.

Intensive collecting on gypsum outcrops in northeastern Mexico has brought to attention a new species of *Scutellaria*.

***Scutellaria lutilabia* Lane & Nesom, sp. nov.**

Inter species sect. *Resinosae* Epling sed caulibus, foliis, pedicellis, et calycibus argenteo-virides cum pilis brevi-sericeis densis vestita. Corolla atosanguinea, labio inferiore cum macula lutea, et mericarpiis tuberculatis et brevi-aculeatis distingueda (Fig. 1).

Rounded to ascending, strongly taprooted, subshrubs 7–30 cm tall and to 70 cm wide, branched especially in the lower half; stems many, arising from an expanded and branched woody crown; stems, leaves, pedicels and calyces silver-green, densely clothed in a sericeous, antrorse vestiture of short, appressed white hairs to 0.25 (–0.5) mm long (Figs. 1–3); sessile glands present but obscured by the hairs. Leaves opposite, elliptic to ovate, 5–15 mm long, 3–7 mm wide, twice as long as wide, basally attenuate to a short petiole 1–2 mm on upper leaves and up to 5 mm on lower leaves, midrib and several pairs of lateral veins raised and prominent beneath, apex obtuse, margins slightly revolute, entire. Flowers solitary in axils, without subtending bracteoles; pedicels 2–4 mm long. Calyces

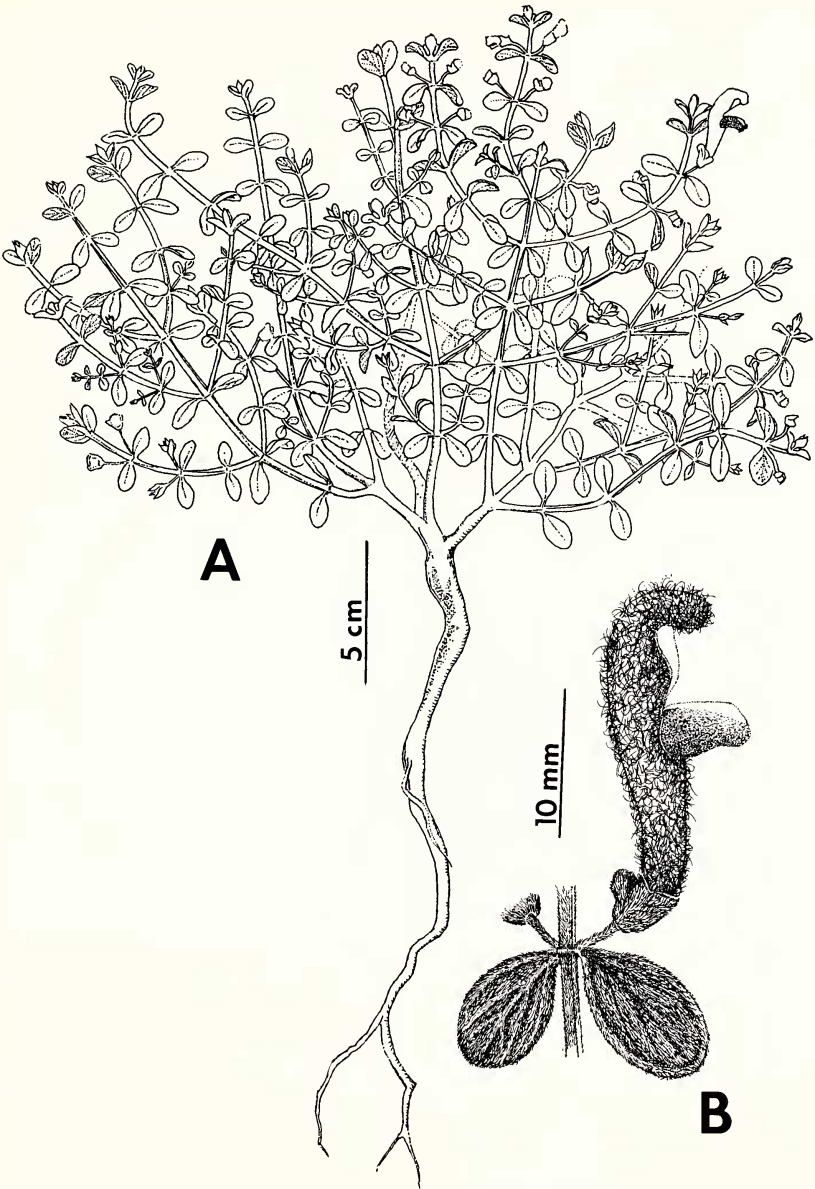


FIG. 1. *Scutellaria hutilabia*. A. Habit. B. Leaves, stem, and flower.

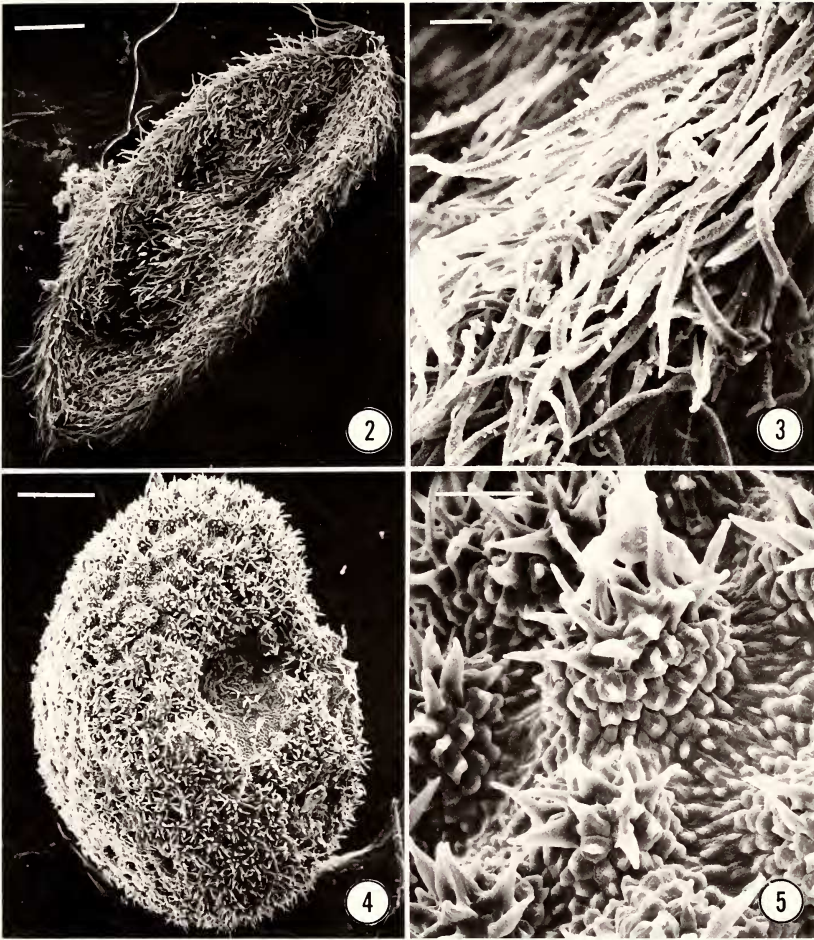
2-lipped, 4–5 mm long, accrescent and closing in fruit; upper lip expanded upwardly 3 mm into a dorsally impressed, shield-like scutellum and falling at maturity with the mericarps; lower lip dish-like, persistent. Corolla sigmoid in outline, 15–20 mm long, maroon, and densely villous on the outer surface with hairs to 1 mm long, bilabiate; lower lip 3-lobed, ca. 8 mm long and 8 mm wide with a median yellow-gold blotch starting just behind the tip and running into the throat; upper lip galeate, ca. 7 mm long, flaring and revolute at both axial edges, with some scattered villosity within; tube 10 mm long, ca. 2 mm wide, densely villous inside at base; stamens didynamous, included within the galea, basal anterior pair adnate ca. two-thirds their length and ultimately longer, basal posterior pair adnate ca. three-fourths their length; anthers maroon-purple, densely short-ciliate, with sessile glands along the line of attachment to the filament; gynoecium with an elevated 4-lobed ovary, free and gynobasic style, and a linear, 2-parted stigma inserted between the 2 anther pairs. Fruit (Figs. 4–5) 4 brownish-black, ovoid mericarps 1.5 mm long, 1 mm wide, surface with tubercles ca. $90 \times 90 \mu\text{m}$ with linear-lanceolate, outwardly elongated apical cells, giving the whole mericarp a densely and minutely hispidulous appearance.

TYPE: México, Nuevo León: ca. 30 km ene. of Doctor Arroyo, 21.5 km ene. of San Antonio de Peña Nevada, $23^{\circ}46'N$, $99^{\circ}55'W$, 2015 m, 3–5 Aug 1981 (fl, fr), *Nesom 4273* (Holotype: MEXU; isotypes: ARIZ, ASU, ENCB, NY, OS, US).

PARATYPES: México, Nuevo León: [type locality], 10 Jul 1984, *Michener 4428 with Prigge* (GH, to be distributed); ca. 7 km ne. of San Antonio de Peña Nevada, [1.3 km n. of the type locality], Jul 1977 (fl, fr), *Wells and Nesom 513* (LL, MO, NCU).

Habitat and distribution. *Scutellaria lutilabia* is known only from gypsum outcrops at an elevation of about 2000–2050 meters on the northwest slope and west base of Cerro Peña Nevada. It is associated there with *Agave*, *Bauhinia*, *Cowania*, *Euphorbia*, *Krameria*, *Leucophyllum*, *Lindleya*, *Mortonia*, *Nolina*, and *Opuntia*, as well as numerous herbaceous species.

Relationships. A suite of characteristics of the new species refer it to the southwestern U.S.-Mexican sect. *Resinosae* Epling (Epling 1942): a xeric habitat; a taproot topped by a woody crown from which arise numerous leafy stems; small, entire leaves; solitary flowers in the axils of the upper leaves; a broad, impressed scutellum; stamens attached near the center of the corolla tube; and mericarp epidermal cells generally with a circular outline at their bases (Fig. 5) (Lane 1983). Features that clearly separate this new species from other members of the section are its sericeous vestiture, densely “hispidulous” mericarps, and maroon corollas with a golden-yellow blotch on the lower corolla lip (from which the specific epithet is



FIGS. 2-5. *Scutellaria lutilabia*. 2. Young leaf. Note nature of vestiture, scale = 500 μm . 3. Detail of leaf vestiture, scale = 50 μm . 4. Mericarp lateral view, scale = 250 μm . 5. Detail of mericarp surface. Note elongated epidermal cells with hair-like extensions, scale = 50 μm . All from *Wells and Nesom 513*. Specimens processed via standard techniques (cf. Lane 1983).

derived). Other species of sect. *Resinosae* have more sparse or at least non-sericeous vestiture, tuberculate mericarps without apical extensions on the tuberculae, and blue or violet-blue corollas with a white blotch on the lower lip.

Scutellaria lutilabia stands apart morphologically from all other described taxa of sect. *Resinosae*. Perhaps its closest relative is an undescribed species from eastern Chihuahua (James Henrickson pers.

comm.), which is similar in habit (though more condensed and intricately branched), leaf morphology, and stem vestiture. In contrast, its flowers are blue with white markings and the mericarps are granular-papillate, lacking the prominent hispidulous surface of *S. lutilabia*. The papillae, however, are rough in appearance apparently because of unevenly protruding epidermal cells and need to be examined in closer detail for possible homologies with those of *S. lutilabia*.

Despite Epling's reservation about the taxonomic value of mericarp morphology, this character has been used previously in the delineation of species and species groups in *Scutellaria* (Lane 1983 and unpubl.). Many of Epling's groups display a high degree of homogeneity in the nature of their mericarp surface. Mericarp surfaces in American species of the genus have been described as smooth, roughened, rugose, granulate, squamellate, mammillate, lacerate-dentate angled, coarsely toothed, with peg-like processes, verrucose, muricate, tuberculate, lamellate, and papillate (see Epling 1942 and various floristic manuals). Epling described those of *S. horridula* Epling (sect. *Resinosae*) as "horridulis"; they have slender, strongly projecting tuberculae but lack the hairlike extensions as in *S. lutilabia*. Almost all of these descriptions, however, are based on observations made with only low magnification. We predict that SEM studies of mericarp surfaces will reveal similarities indicative of recent common ancestry.

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